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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,034	06/20/2003	Joshua T. Goodman	MS303963.1	6225

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EXAMINER	
BAYARD, DJENANE M	
ART UNIT	PAPER NUMBER
2141	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/601,034	GOODMAN ET AL.	
	Examiner	Art Unit	
	Djenane M. Bayard	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-63* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-63* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :2/20/04, 1/24/05, 10/12/04, 8/22/05, 3/25/05, 10/24/05, 9/30/05, 3/21/06, 1/20/06, 5/10/06, 11/07/06, 3/16/07, 2/07/07, 11/29/06, 7/31/06, 2/27/06, .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-63 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant is merely claims "a randomization component that obfuscates functionality of a spam filter to mitigate reverse engineering the one or more spam filters". However, the claims fail to interrelate essential elements of the invention as defined by applicant in the specification.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-19, 59-61 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: claims 1-19 failed to specify the steps performed by the randomization component in order to obfuscate the functionality of the spam filter.

4. Claims 20-34 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: claims 20-34 fails to specify how the spam filter filtering system mitigate reverse engineering of the spam filters.

5. Claims 35-46, 57 and 62 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the claimed limitation fails to specify the purpose of randomizing the score of the message before classifying the message as spam or non-spam.

6. Claims 47-56 and 63 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the claims limitation fails to specify how deploying a plurality of spam filters mitigate the reverse engineering of the spam filters.

7. Claim 2 recites the limitation " it" in line 2. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 8 recites the limitation " the message" in line 2. There is insufficient antecedent basis for this limitation in the claim.

9. Claim 11 recites the limitation " the message " in line 2. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 25 recites the limitation "the sender" in line 3. There is insufficient antecedent basis for this limitation in the claim.

11. Claim 41 recites the limitation "the sender" in line 6. There is insufficient antecedent basis for this limitation in the claim.

12. Claim 50 recites the limitation "the messages " in line 3. There is insufficient antecedent basis for this

limitation in the claim.

13. Claim 59 recites the limitation " the one or more spam filter" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

15. Claims 1-8, 10-37 and 39-63 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application No. 2004/0199585 to Wang.

a. As per claim 1, 57 and 59, Wang teaches a spam filtering system comprising: one or more spam filters; and a randomization component that obfuscates functionality of a spam filter to mitigate reverse engineering the one or more spam filters (See page 1, paragraph [0004]).

b. As per claim 35 and 62, Wang teaches a method that facilitates obfuscating a spam filter comprising: running a message through a spam filter; computing at least one score associated with the message; randomizing the score of the message before classifying the message as spam or non-spam; and classifying the message as spam or non-spam (See page 1, paragraph [0004], page 2, paragraph [0019-0025]).

c As per claims 20, 47 and 63, Wang teaches a multi-spam filter filtering system that mitigates reverse engineering of spam filters and mitigates finding one message that gets through a spam filter substantially all the time comprising: a plurality of spam filters comprising at least a first spam filter and a second spam filter for processing and classifying messages; a plurality of users comprising at least a first user and a second user; and a filter selection component that selects one or more filters to be deployed for use by at least one of the plurality of users (See page 3).

d. As per claim 2, Wang teaches the randomization component randomizing scores of the filter so as to make it difficult for a spammer to determine whether a message that is close to a threshold and changes from being one of blocked or delivered, has changed due to one of the following: a modification to the message and the randomization component (See page 1, paragraph [0004]).

e. As per claims 3, 39 and 61, Wang teaches wherein the randomization component comprising a random number generator that generates at least one of a random number and a pseudo-random number (See page 3, paragraph [0038]).

f. As per claim 4, Wang teaches the randomization component comprising one or more input components whereby the one or more input components provide input to the random number generator to facilitate determining what random number to generate for a particular message (See page 3, paragraph [0038]).

g. As per claim 5, Wang teaches the randomization component generating a random number based at least in part upon input received from one or more input components (See page 3, paragraph [0039]).

h. As per claim 6, Wang teaches the input from the one or more input components is based at least in part on time (See page 3, paragraph [0037-0039]).

i. As per claim 7 and 40, Wang teaches wherein the random number generated depends on at least one of: a time of day and an increment of time; such that the number generated changes according to any one of: the time of day and a current increment of time (See page 3, paragraph [0037-0039]).

j. As per claims 8 and 41, Wang teaches wherein the input from the one or more input

components is based at least in part on at least one of a user, a recipient, and a domain receiving the message (See page1, paragraph [0017]).

k. As per claim 9 and 25, Wang teaches wherein the random number generated depends on at least one of: a user, a recipient, and a domain receiving the message; such that the number generated changes according to any one of: an identity of the user, an identity of the recipient of the message, and the domain receiving the message (See page 2,paragraph [0024].

l. As per claim 10, Wang teaches wherein the identity of any one of the user and the recipient comprises at least one of a display name and at least a portion of an email address (See page 2, paragraph [0019]).

m. As per claim 11, Wang teaches the input from the one or more input components is based at least in part on content of the message (See page 1, paragraph [0016]).

n. As per claim 12, Wang teaches wherein the random number generated changes depending on at least a portion of the message content (See page 1, paragraph [0016], page 2, paragraph [0024], page 3, paragraph [0037-0039]).

o. As per claim 13, Wang teaches wherein a hash of the message content is computed and the hash value is used as the random number, whereby even a small change to the message content results in a substantially large change to the random number generated (See page 3,

paragraph [0053]).

p. As per claim 14, Wang teaches wherein a hash of at least a portion of features extracted from a message is computed to facilitate randomizing a message score and thus, the functionality of the spam filter (See page 3, paragraph [0053]).

q. As per claim 15, Wang teaches wherein the features used to compute the hash have respective individual weights greater than some threshold (See page 3, paragraph [0053]).

r. As per claim 16, Wang teaches wherein a hash of a sender's IP address is computed to facilitate randomizing message scores to thereby obscure the functionality of the spam filter (See page 3, paragraph [0053]).

s. As per claim 17, Wang teaches having a substantial effect on messages that border between spam and non-spam, whereby messages that are border-line spam are classified as spam at least part of the time by randomizing scores of the messages (See page 3, paragraph [0035-0039]).

t. As per claim 18, Wang teaches the randomization component mitigating spammers from finding at least one message that gets through the spam filter substantially every time it is sent (See page 3, paragraph [0035-0039]).

u. As per claim 21, Wang teaches a time input component that communicates with the filter selection component such that one or more of the plurality of filters are selected and deployed for a respective user based at least in part upon any one of a time of day and a time increment (See page 3, paragraph [0035-0039]).

v. As per claim 22, Wang teaches wherein the time increment is any number of seconds, minutes, hours, days, weeks, months, and years (See page 2, paragraph [0024]).

w. As per claim 23, Wang teaches the filter selection component selects the one or more filters randomly (See page 3, paragraph [0037-0039]).

x. As per claim 24, Wang teaches the filter selection component selects the one or more filters non-randomly (See page 2).

y. As per claim 26, Wang teaches the users being recipients of the messages (See page 1, paragraph [0004]).

z. As per claim 27, Wang teaches wherein at least a portion of the plurality of spam filters is trained using one or more sets of training data via a machine learning system (See page 2).

aa. As per claim 28, Wang teaches the training data corresponding to features extracted from messages (See page 2).

ab. As per claim 29, Wang teaches wherein at least a portion of the features extracted from the messages is forced to have particular values (See page 3, paragraph [0035-0039]).

ac. As per claim 30, Wang teaches wherein at least a portion of the features extracted from the messages is excluded from the training data (See page 2).

ad. As per claim 31, Wang teaches wherein at least a portion of the features extracted from the messages is clustered by feature type such that each cluster of data is used to train individual filters (See page 3, paragraph [0034-0039]).

ae. As per claim 32, Wang teaches wherein at least a portion of the plurality of users is clustered by user type the user type being related to the feature type clusters such that a spam filter corresponding to the user type is employed for that user (See page 2, paragraph [0023-0026]).

af. As per claim 33, Wang teaches wherein the first filter is trained using at least a first subset of training data and the second filter is trained using at least a second subset of training data, at least a portion of the second subset of training data being non-overlapping with at least a portion of the first subset of training data (See page 1, paragraph [0017]).

ag. As per claim 34, Wang teaches wherein the first filter and the second filter are deployed

for use together so that a plurality of different criteria and/or features of the messages are looked at before classifying the messages as spam or non-spam (See page 2, paragraph [0022-0024]).

ah. As per claim 36, Wang wherein the at least one score associated with the message comprises a finalscore and a summedscore (See page 3).

ai. As per claim 37, Wang teaches wherein the summedscore is a sum of all scores associated with individual features extracted from a message (See page 2, paragraph [0019-0025]).

aj. As per claim 42, Wang teaches the number added to the score of the message depending at least in part upon at least one of the following: a hash of contents of the message; and a hash of at least a portion of features extracted from the message (See page 3, paragraph [0034-0039], page 5, paragraph [0050-0059]).

ak. As per claim 43, Wang teaches wherein the features used to compute the hash have respective weights greater than 0 (See page 3).

al. As per claim 44, Wang teaches wherein the features used to compute the hash can randomly or non-randomly change depending on at least one of a time of day and a time increment (See page 5, paragraph [0051-0059]).

am. As per claim 45, Wang teaches the number added to the score of the message depending at least in part upon a hash of a sender's IP address (See page 5, paragraph [0051-0055]).

an. As per claim 46, Wang teaches the number added to the score of the message depending on input from one or more input components (See page 3).

ap. As per claim 48-56, see claims 20-34 above.

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Djenane M. Bayard whose telephone number is (571) 272-3878. The examiner can normally be reached on Monday- Friday 5:30 AM- 3:00 PM..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Djenane Bayard

Patent Examiner

RUPAL DHARIA
SUPERVISORY PATENT EXAMINER